

We claim:

1. A device for delivering a stent, the device comprising:

- a) an inner shaft having a proximal end and a distal end;
- b) an outer shaft moveable with respect to the inner shaft, the outer shaft having a proximal end and a distal end;
- c) a stent receiving area on the inner shaft adjacent the inner shaft distal end;
- d) a tapered tip mounted on the inner shaft distal end;
- e) means coupled to the inner shaft and outer shaft for manipulating the outer shaft with respect to the inner shaft; and
- f) a stent positioned in the stent receiving area..

2. A device of claim 1 and further comprising a channel member disposed between the inner shaft and the outer shaft.

3. A device of claim 2 wherein the channel member defines a plurality of channels extending along a length of a lumen defined between the outer shaft and the inner shaft.

4. A device of claim 3 wherein the channel member defines eight channels extending along the length of the lumen defined between the outer shaft and the inner shaft.

5. A device of claim 2 wherein the channel member extends from the inner shaft.

6. A device of claim 1 and further comprising a radiopaque marker on the inner shaft approximate the stent receiving area.

5 7. A device of claim 1 and further comprising a coupling member on said outer shaft and a valve relief, the coupling member selectively coupling the valve relief to the outer shaft.

8. A device of claim 1 wherein the means coupled to the outer shaft and inner shaft comprises a handle with a reciprocating knob coupled to the outer shaft whereby the outer shaft is moved with respect to the movement of the knob.

9. A device of claim 1 wherein the means coupled to the outer shaft and inner shaft includes a moveable knob coupled to the inner shaft for moving the inner shaft longitudinally with respect to the outer shaft.

10. A device of claim 1 wherein the tip has a proximal end and a distal end and the tip is tapered towards its distal end.

11. A device of claim 1 wherein the stent receiving area has a stent stop.

12. A device of claim 1 wherein the stent stop comprises the radiopaque marker.

13. A device of claim 1 and further comprising a radiopaque marker on the distal end of the outer shaft.

14. A device of claim 1 wherein the stent has a plurality of segments in a first radial position and a plurality of second segments in a second radial position when in an unexpanded configuration.

15. A method for mounting on a delivery system a stent comprising a plurality of segments, the method comprising:

- a) reducing the plurality of segments to a first radial position;
- b) moving selected stent segments from the first radial position to a second radial position, wherein the second radial position is less than the first radial position;
- c) positioning the stent in the delivery system.

16. A method of claim 15 wherein positioning the stent in the delivery system comprises pulling the stent into the delivery system.

17. A method of claim 15 wherein reducing the stent to the first radial position comprises placing the stent in a roll down fixture, rolling the stent in the roll down fixture such that the segments are in contact with each other, and placing the rolled down stent from the roll down fixture into a tubing.

18. A method of claim 15 and further including cooling the stent during steps a-c.

18. A method for mounting a self expanding stent on a delivery system having an inner shaft and an outer retractable shaft, said method comprising:

- a) placing a stent in a roll down fixture, the stent defined by a plurality of segments;
- b) rolling the stent down to a first radial configuration;
- c) cooling the stent as it is being rolled down;
- d) moving the stent from the roll down fixture into a first tubing;
- e) moving the stent over the inner shaft and adjacent at least one marker band;
- f) moving selected stent segments from a first radial position to a second radial position as it is moved over the inner shaft; and
- g) placing the stent into the delivery sheath.